WHAT IS CLAIMED IS:

1. A method for sequentially laminating and mounting a plurality of semiconductor chips each having an electrode surface, comprising the steps of:

activating the electrode surfaces of the semiconductor chips which are arranged in opposition to each other;

positioning the semiconductor chips;

laminating and bonding the semiconductor chips by pressing such that a reaction layer is not formed or formation of the reaction layer is suppressed excessively; and

entirely heating the semiconductor chips so as to form the reaction layer after lamination and bonding of all the semiconductor chips are completed.

2. A method as claimed in claim 1, wherein:

supersonic wave is applied in addition to the pressing in the laminating and bonding step.

3. A method as claimed in claim 1, wherein:

a bump is formed on the semiconductor chip, and

the electrode surface includes solder formed on the bump.

4. A method as claimed in claim 1, wherein:

a bump is formed on the semiconductor chip, and

the electrode surface includes solder containing an active component formed by electroless plating.

5. A method as claimed in claim 1, wherein:

the reaction layer comprises a bonding layer made of solder.

6. A method as claimed in claim 1, wherein:

the reaction layer is uniformly formed between the semiconductor chips.

7. A method as claimed in claim 1, wherein:

the activating step is carried out in order to remove an organic substance on the electrode surface.

8. A method as claimed in claim 1, wherein:

the pressing step is carried out such that the bonding is performed via interatomic force by approaching the activated electrode surface to an interatomic distance.

9. A method as claimed in claim 1, wherein:

the activating step is carried out by an atomic beam of inactive gas excited by plasma.

10. A method as claimed in claim 1, wherein:

the activating step is carried out by irradiating radical fluorine.

11. A method as claimed in claim 1, wherein:

the activating step is carried out by sputtering.

12. A method as claimed in claim 1, wherein:

the activating step is carried out by thermally processing in reduction gas.